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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 09/737,441 | 12/13/2000 | Michael Ralph Foster | DEP-0112(DP-302738) | 1875 |
| 22851 | 7590 | 05/03/2005 | EXAMINER | |
| DELPHI TECHNOLOGIES, INC. | | | TRAN, HIEN THI | |
| M/C 480-410-202 | | | ART UNIT | |
| PO BOX 5052 | | | PAPER NUMBER | |
| TROY, MI 48007 | | | 1764 | |

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/737,441 | | FOSTER ET AL. | |
| | Examiner | | Art Unit | |
| | Hien Tran | | 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 10-15, 17-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

JCL

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DETAILED ACTION

Claim Objections

1. Claim 13 is objected to because of the following informalities:

In claim 13, line 4 --assembly-- should be inserted after "endcone".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 10-15, 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santiago et al (4,155,980) in view of Yaguchi (3,937,617) or Grescher (6,128,821).

With respect to claims 10, 15, Santiago et al discloses a catalytic converter, comprising:
a catalyst substrate 1 comprising a catalyst;
a shell 3 concentrically disposed around the catalyst substrate 1;

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a mat support material 2 disposed between the catalyst substrate 1 and said shell 3 and concentrically around the catalyst substrate 1; and

an endcone assembly comprising an inlet end, a conical shaped sidewall extending outwardly from an inlet end and a shoulder 7 extending from the sidewall, wherein said endcone assembly is engaged to said shell 3 at said shoulder 7; said endcone assembly further comprising a mat protection element 5 extending integrally from said shoulder 7 inwardly toward the substrate 1 and at least partially overlying said mat support material 2 about said substrate 1, wherein said mat protection element 5 comprises a protrusion extending outwardly from said mat protection element and contacting the shell 3 (col. 2, line 39 to col. 3, line 30; Figs 1, 3).

The apparatus of Santiago et al is substantially the same as that of the instant claims, but whether the housing forms integrally with the end cone assembly instead of being separated from the end cone assembly and then being circumferentially welded.

However, Yaguchi and Grescher disclose another alternative technique for forming the end cone assembly attaching to the housing, e.g. via welding.

It would have been obvious to one having ordinary skill in the art to select an appropriate method for attaching the end cone assembly to the housing as taught by Yaguchi or Grescher in the apparatus of Santiago et al, since such a modification would have involved a mere substitution of known equivalents. A substitution of known equivalents is generally recognized as being within the level of ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

Furthermore, it should be noted that the method of forming the device is not germane to the issue of patentability of the device itself.

With respect to claims 11-12, 19-20, Santiago et al discloses that the mat protection element 5 contacts at least an edge of the mat support material 2 or penetrates at least a portion of said mat support material or disposes between the shell and the substrate (Fig. 3).

With respect to claims 13-14, 17-18, note the protrusions (a first conical portion before part near #7, a second portion at # 7, a second conical portion # 9, and a third conical portion #5) in Fig. 3 of Santiago et al.

Response to Arguments

5. Applicant's arguments with respect to claims 10-15, 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that the mat protection element 5 of Santiago et al is a distinct element and is not integral with the stamping that forms the end cone. Such contention is not persuasive as it has been held that the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. In re Hotte, 177 USPQ 326, 328 (CCPA 1973).

Applicants argue that Santiago et al does not have any protrusion contacting the portion of the housing surrounding the substrate and the mat as claimed. However, the language of the claim is not commensurate in scope with such argument. Note that Santiago et al does disclose provision of a mat protection element 5 with a protrusion that extends outwardly and contact the shell (the part that just extends out, near part #7 in Fig. 3).

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Abthoff et al is cited for showing state of the art.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hien Tran

**Hien Tran
Primary Examiner
Art Unit 1764**

HT
April 29, 2005